

C/025/005 Incoming

#3810

OK



Alton Coal Development, LLC

463 North 100 West, Suite 1

Cedar City, Utah 84720

Phone (435) 867-5331 • Fax (435) 867-1192

Date: April 12, 2011

Daron R. Haddock
Coal Program Manager
Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Subject: Mine and Reclamation Plan Addendum – Addendum to Appendix 3-5.

Dear Mr. Haddock,

Enclosed are C1/C2 forms and 3 clean copies of the Addendum to Appendix 3-5 titled "Greater Sage-Grouse Monitoring and Habitat Use in South-Central (Alton) Utah. This addendum is to be incorporated in the Coal Hollow Mine and Reclamation Plan (MRP), C/025/0005. This submittal was generated after discussions between Larry Johnson and Joe Helfrich on Monday, April 11, 2011.

Please let me know if you have any questions or concerns. I can be contacted at (435) 691-1551

Sincerely,

B. Kirk Nicholes
Resident Agent

RECEIVED

APR 14 2011

DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☐ New Permit ☒ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Alton Coal Development, LLC

Mine: Coal Hollow

Permit Number: C/025/0005

Title: Greater Sage-grouse Monitoring and Habitat Use in South-Central (Alton) Utah

Description, Include reason for application and timing required to implement:

The submittal is an addendum to appendix 3-5

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- ☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
- ☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
- ☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- ☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
- ☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- ☐ Yes ☒ No 6. Does the application require or include public notice publication?
- ☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- ☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- ☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
- ☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
- ☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
- ☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- ☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
- ☒ Yes ☐ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- ☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
- ☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- ☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
- ☐ Yes ☒ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- ☐ Yes ☒ No 19. Does the application require or include certified designs, maps or calculation?
- ☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
- ☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
- ☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- ☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

B. Kirk Nicholas
Print Name

B. Kirk Nicholas Resident Agent 4/12/11
Sign Name, Position, Date

Subscribed and sworn to before me this _____ day of _____, 20____

Notary Public

My commission Expires: _____, 20____ }
Attest: State of _____ } ss:
County of _____

For Office Use Only:

Assigned Tracking
Number:

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APR 14 2011

DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Alton Coal Development, LLC

Mine: Coal Hollow

Permit Number: C/025/0005

Title: Greater Sage-grouse Monitoring and Habitat Use in South-Central (Alton) Utah

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED

Greater Sage-grouse Monitoring and Habitat Use in South-Central (Alton) Utah; added to Volume 2, Appendix 3-5 Alton Sage-Grouse Habitat Mitigation Plan as an addendum

☒ Add ☐ Replace ☐ Remove☐ Add ☐ Replace ☐ Remove

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.

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DIV. OF OIL, GAS & MINING

GREATER SAGE-GROUSE MONITORING AND HABITAT USE IN SOUTH-CENTRAL (ALTON) UTAH

Research Proposal 2011

Dr. Steve Petersen and Kevin Heaton

History and Background

History of Sage-grouse Habitat Use in Alton, Utah

Greater Sage-grouse have been trapped and monitored in the Sink Valley area for over 6 years. These efforts have been orchestrated by wildlife biologist Nicki Frey, a professor and extension specialist from Utah State University. Her efforts have been supported by contributions from Kevin Heaton (USU, Panguitch, Utah), Wally Dodds (Utah Watershed Coalition), Steve Petersen (Alton Coal), and numerous other members of the Color Country Adaptive Resource Management (CCARM) group, Utah Division of Wildlife resources, and other sage-grouse interested volunteers.

Initial trapping efforts focused on capturing birds in the Alton/Sink Valley area late summer through early fall and during the lekking season. Trapping consisted of using spotlight techniques, usually between the hours of 10pm and 2am, while riding on 4-wheelers or walking through key habitat areas with a backpack generator powered spotlight. Spotted birds were trapped by a netter and then secured. Each bird was fitted with a necklace type VHF collar, sampled for DNA by plucking a single feather, weighed, and then released (Figure 1). Collared birds were monitored from that time on and throughout the year by undergraduate student technicians focusing on wildlife biology at Southern Utah University (under the direction of Dr. Nicki Frey). Technicians used telemetry to locate the birds and record coordinate positions for each bird using WAAS enabled GPS (3-5m accuracy). These data were then provided to Dr. Frey who maintains and manages this cumulative database.

The Alton/Sink Valley sage-grouse population, which is relatively small and isolated, is estimated to be only 40-75 birds. From the initial research activities, the concern was that this small isolated population may not be sustainable. The research objective was to determine habitat use, habitat expansion in to treated and historical areas, and to document population interchange, if any occurs. According to Dr. Frey (personal communication), results from the 2006-2008 monitoring period suggests that the Alton population is non-migratory, with birds remaining primarily in the Sink Valley area or in the alfalfa fields just south and southeast of Alton throughout the entire year (Figure 2).

In the fall of 2006, radio collared sage-grouse were documented moving from the Alton/Sink Valley area to the Hoyt's Ranch area. Since that time, technicians have documented sage-grouse movements between the two areas on several occasions. In 2009, trapping and collaring efforts at the Alton area were terminated to prevent unnecessary stress to the Alton birds that would potentially be exposed to coal mining activities.

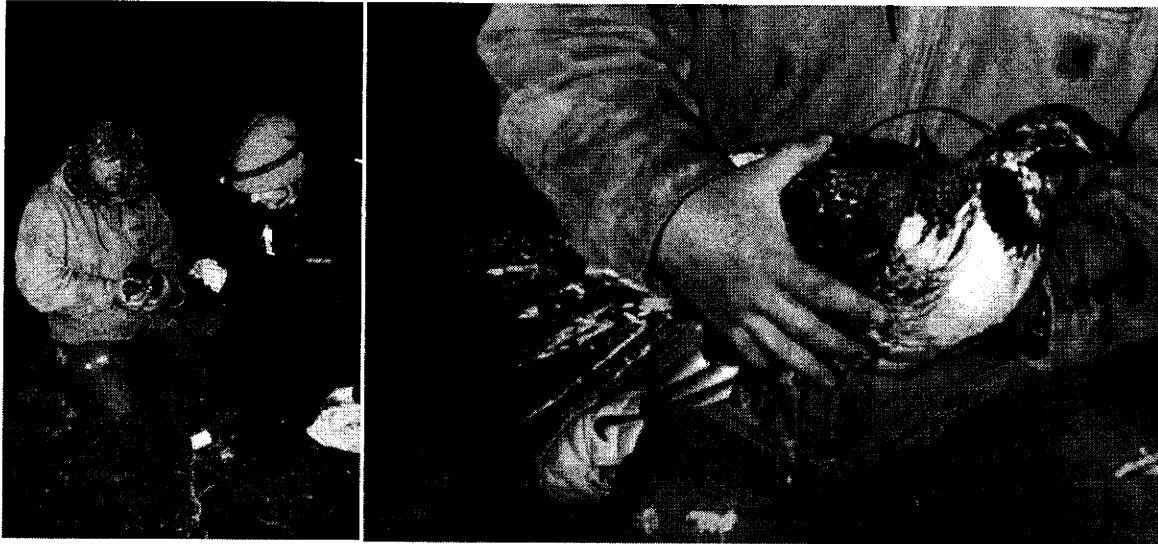


Figure 1. Trapped male sage-grouse from the Hoyts Ranch Lek in spring 2010. Biologists Wally Dodds and Nicki Frey collar the bird with a necklace type VHF transmitter.

Trapping and Monitoring at Hoyts Ranch

Based on the initial distribution data, it appeared that birds were found occasionally flying out of the Alton area toward Hoyts Ranch, a sagebrush dominated area located 15 miles north of the town of Alton. Hoyts Ranch has long supported a separate population of sage-grouse, using an established lek located adjacent to the Cherokee Springs golf course. The Hoyts Ranch plant community consists of black and mountain big sagebrush, bitterbrush, and native and grass understory. This area has experienced lower pinion-juniper encroachment than that of the Alton area. This area supports a significantly larger population of sage-grouse and more suitable sage-grouse habitat than Alton.

Student technician observations from monitored birds led biologists to believe that sage-grouse were potentially flying from Hoyts Ranch to Alton along an intact stand of sagebrush and through a recently established corridor created by Karl Heaton and other

private land owners in the Alton area. To establish the relationship between these two populations, over 10 males were trapped during the 2009 lekking season, collared, and then tracked throughout the year. Data from this monitoring effort found birds using sagebrush stands to the south and then flying into the Alton area on multiple different occasions (personal communication with Dr. Frey).

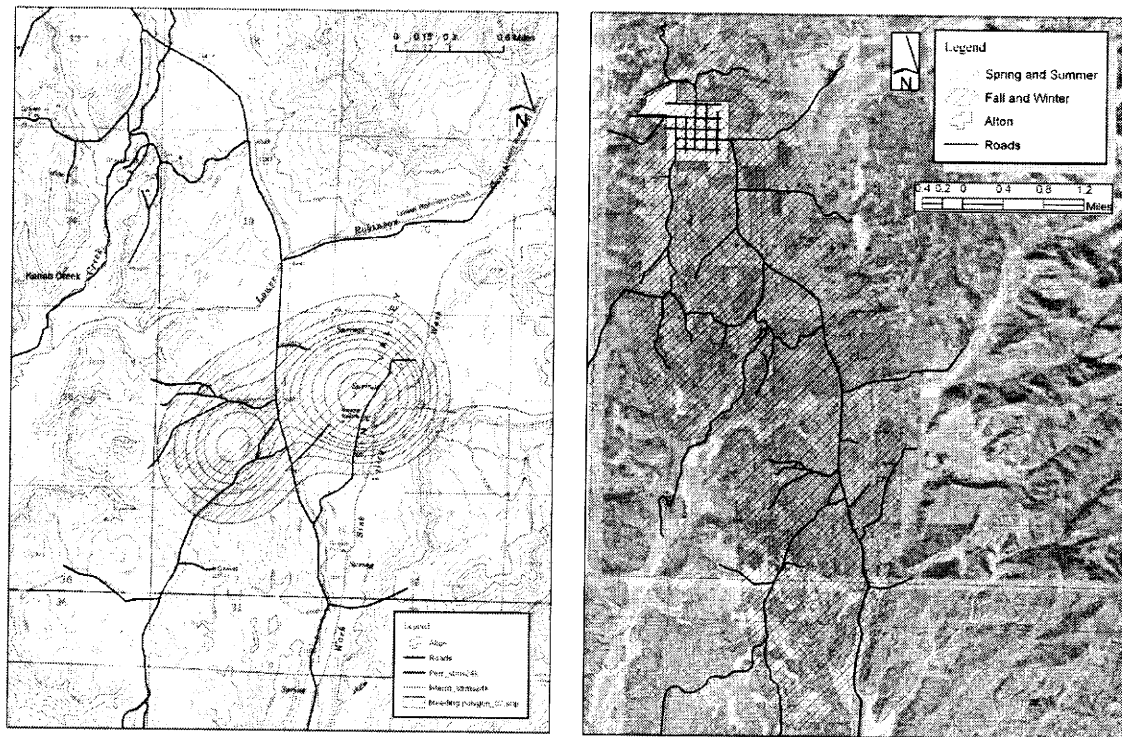


Figure 2. Map of habitat use preference by greater sage-grouse using data collected during the early phases (2006-2008) of the sage-grouse monitoring project (maps produced by Dr. Nicki Frey, USU).

In March-April 2010, an additional group of birds were trapped in the Hoyts Ranch area resulting in a total of 12 collared birds. Student technicians monitored each bird on a nearly weekly basis. Results from this effort indicate that birds used habitat in both Hoyts Ranch and Alton throughout the year (Figure 3). Individual birds were observed initially in the Hoyts Ranch area and then migrated to the Alton area. According to Kevin Heaton (personal communication), birds have used these areas as a corridor between these two areas in the past and the work being done to expand and restore the corridor is an improvement on an already important pathway for migrating sage-grouse.

Data show that most of the birds trapped during the 2010 lekking season were observed in the Alton area at some point in time (Figure 4). Combined results of grouse collaring efforts over the past 7 years in the Alton/Sink Valley and Hoyts Ranch areas suggest that Hoyts Ranch birds tend to frequent the Alton/Sink Valley area while Alton/Sink Valley resident sage-grouse tend to stay in their home range in the valley.

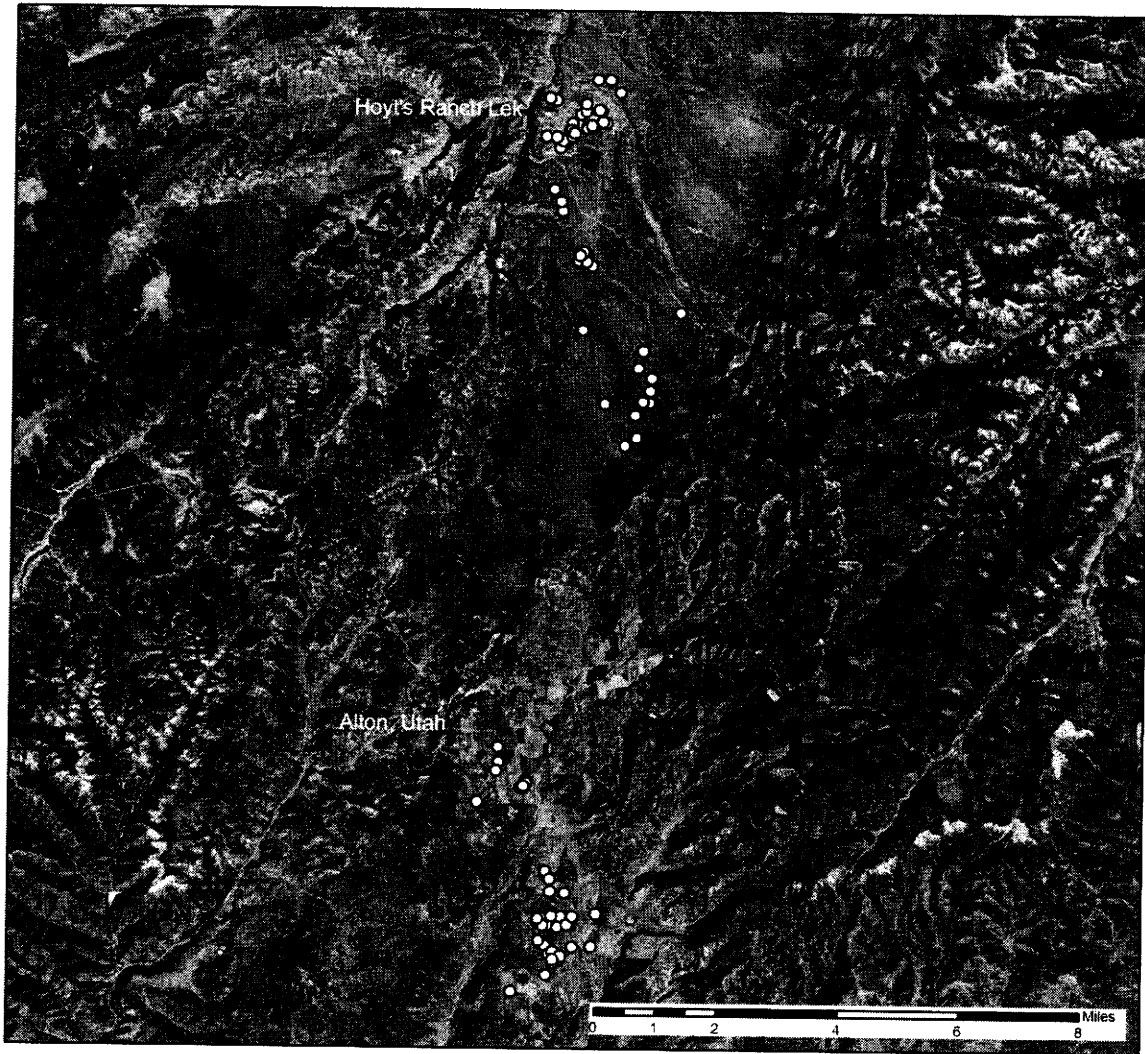


Figure 3. Locations of greater sage-grouse in the Hoyts Ranch and Alton areas. Birds were collared in 2010 at the Hoyts Ranch lek and then locations recorded throughout the year by student technicians at Southern Utah University.



Figure 4. Individual bird locations within the Hoyts Ranch and Alton areas. Each bird is identified by the similar color point locations.

2010 Research Proposal

Mining Activities in Sink Valley

The data collected in 2010 show that at least 5 of the 12 birds from the Hoyts Ranch population traveled to the Alton area. All of these birds were observed in the Alton area at a minimum of 3 separate monitoring periods. Data from 2009 are currently being mapped by a GIS specialist at Southern Utah University and are not yet available.

In February 2010, surface coal mining operations began in the Alton area. A mining pit excavated in the Sink Valley area, immediately north of the Sink Valley lek has potential to influence sage-grouse habitat use and movement patterns. Little research has been conducted on the influence of short-term or long-term surface mining activities on sage-grouse habitat use. The purpose of this research is to determine sage-grouse habitat selection during and after mining. Sage-grouse telemetry data from the previous 6 years (pre-mining) provides excellent baseline data for this project. Obtaining quality data during mining operations, a major disturbance to the sage-grouse lekking, brood rearing, and nesting areas, is critical to the overall success of our research objective. With ongoing mining activities, the sage-grouse may 1) utilize habitat around the mine activities, 2) move either north to Hoyts Ranch or south to Glendale Bench/Skutumpah area and/or 3) stop migration between Hoyts Ranch and Alton/Sink Valley.

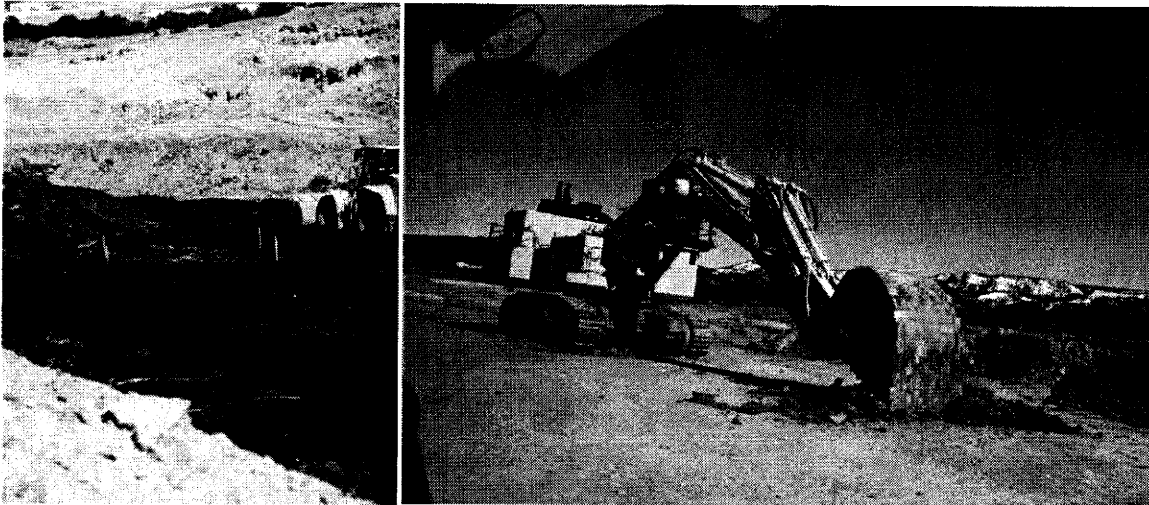


Figure 5. Mining and mining equipment at the Alton area. Removed material is stockpiled and later replaced on the excavated site. Each site is then revegetated to mimic pre-disturbance conditions.

2011 Data Collection

Birds will be trapped and collared during the 2011 lekking period. Hens are preferred to detect nesting sites within the Hoyts Ranch area. Each collared bird will be immediately tracked after trapping to make sure that birds are not lost or nest sites missed. A target of 20 birds will be collared during the 2011 season. Funds (\$18,000) are provided by Alton Coal to pay for monitoring activities and additional collars as needed. The mine will also contribute funds for predator control to enhance chick and adult survival after the mating period.

During the 2011 sampling season, Kevin Heaton will be responsible for monitoring collared birds and maintaining coordinate data. He will organize and oversee student technicians to ensure that frequent visits are made and that all birds are being located and positions recorded. Sage-grouse mortalities will be recorded including the location where the bird died and the estimated cause of death. All activities will be communicated to the CCARM group during their regular meetings. This group will also be consulted on all matters regarding sage-grouse monitoring and included in any research decisions or changes.

Data Analysis

Data collected in 2011 will be compared with 2009 and 2010 to detect any differences in habitat use. Regression analysis or multivariate analysis will be used to compare differences between pre mining and mining time periods. If permitted, additional years of collars will be deployed and data collected to increase sample size and to further detect change in bird habitat use over time.

Data will be summarized and results presented in a 2011 habitat use report that will be provided to the Utah Division of Wildlife Resources, Utah Division of Oil, Gas, and Mines (UDOGM), Alton Coal Inc., and Dr. Frey at the end of the year.

At least one peer-reviewed journal article will be written and submitted for review after 2-3 years of data have been collected since mining began. This article will focus on comparing pre-mining data with data collected from 2011-2013. The article will be targeted for a wildlife management journal (i.e. *Journal of Wildlife Management*). All those who contributed to data collection and writing will be included as co-authors in this document.